

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application. These claims are being amended, without prejudice.

Listing of Claims:

1. (Currently Amended) A surface traversing apparatus adapted to be adhered to a surface by a partial vacuum, the apparatus comprising:

a frame forming a chamber;

a seal having a seal perimeter defining an opening of the chamber, the seal perimeter having at least a portion for rolling relative to the chamber and for contact with the surface to be traversed to prevent leakage and maintain a vacuum seal with the surface sufficient to adhere the apparatus to the surface, wherein at least a portion of the seal perimeter comprises at least one roller comprising a material selected from the group consisting of closed cell foam, coated open cell foam, and neoprene; and

a drive powering at least a portion of the seal to move the apparatus relative to the surface.

2. (Cancelled)

3. (Currently Amended) The apparatus of claim 1, [[2]] wherein the at least one roller comprises a compressible outer surface.

4. (Currently Amended) The apparatus of claim 1[[2]] wherein the drive powers the at least one roller.
5. (Original) The apparatus of claim 1 wherein a portion of the seal perimeter comprises at least two rollers.
6. (Previously Presented) The apparatus of claim 5 wherein the at least two rollers are parallel and disposed on opposing sides of the frame.
7. (Original) The apparatus of claim 1 wherein a portion of the seal perimeter comprises a track.
8. (Withdrawn) The apparatus of claim 7 wherein the track comprises a plurality of contiguous pads.
9. (Withdrawn) The apparatus of claim 8 wherein at least one pad comprises a flexible sealing element.
10. (Withdrawn) The apparatus of claim 8 wherein at least one pad comprises a pair of independently compressible flexible sealing elements.
11. (Previously Presented) The apparatus of claim 7 wherein the drive powers the track.

12. (Original) The apparatus of claim 1 wherein a portion of the seal perimeter comprises two tracks.
13. (Previously Presented) The apparatus of claim 12 wherein the two tracks are parallel and disposed on opposing sides of the frame.
14. (Original) The apparatus of claim 1 further comprising means for maintaining the apparatus in contact with the surface.
- 15-16. (Cancelled)
17. (Withdrawn) The apparatus of claim 1 further comprising a processing apparatus mounted to the frame and adapted to process at least a portion of the surface.
18. (Previously Presented) The apparatus of claim 1 wherein the seal perimeter comprises a closed polygon.
19. (Original) The apparatus of claim 18 wherein the polygon is a quadrilateral.
20. (Original) The apparatus of claim 1 further comprising a processor for controlling the apparatus.

21. (Currently Amended) A surface traversing apparatus adapted to be adhered to a surface by a partial vacuum, the apparatus comprising:

a frame forming a chamber;

a locomoting seal mounted to the frame for rolling relative to the chamber and for contact with the surface to be traversed to prevent leakage and maintain a vacuum seal with the surface sufficient to adhere the apparatus to the surface, wherein at least a portion of the locomoting seal comprises at least one roller comprising a material selected from the group consisting of closed cell foam, coated open cell foam, and neoprene; and

a drive powering at least a portion of the locomoting seal to move the apparatus relative to the surface.

22. (Original) The apparatus of claim 21 wherein the locomoting seal comprises a perimeter, at least a portion of which cooperates with the drive to move the apparatus relative to the surface.

23. (Currently Amended) A surface traversing apparatus, the apparatus comprising:

a frame;

a seal comprising:

first and second parallel rollers disposed on opposing sides of the frame, wherein the rollers are rotatably connected to the frame;

first and second tracks disposed on additional opposing sides of the frame, wherein the rollers and tracks provide rolling contact with the surface to be traversed and maintain a vacuum seal with the surface sufficient to adhere the apparatus to the surface, wherein

at least one of the rollers and the tracks comprise a material selected from the group consisting of closed cell foam, coated open cell foam, and neoprene; and

a drive powering at least a portion of the seal to move the apparatus relative to the surface.

24. (Original) The surface traversing apparatus of claim 23, wherein at least one of the first and second rollers comprises an additional track.

25. (Cancelled)

26. (Cancelled)

27. (Currently Amended) The apparatus of claim 1[[26]], wherein the closed cell foam comprises expanded sponge rubber vinyl nitrile.

28. (Currently Amended) The apparatus of claim 1[[26]], wherein the coated open cell foam comprises a polyurethane sponge coated with a spray applied polymer.

29. (Previously Presented) The apparatus of claim 14, wherein the means for maintaining the apparatus in contact with the surface comprises a vacuum source fluidically coupled to the chamber through a connection port mounted to the frame.